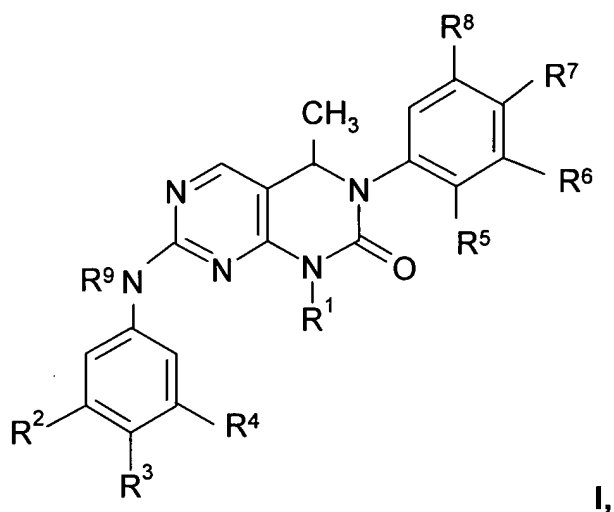


This listing of the claims will replace all prior versions and listings of the claims in this application.

In the Claims:

1. A compound of formula:



or a pharmaceutically acceptable salt thereof, wherein

R¹ is selected from the group

H,

C₁₋₁₀ alkyl,

C₁₋₁₀ alkyl substituted by up to three groups selected from aryl, cycloalkyl, heteroaryl, heterocycle, NR¹⁰R¹¹, OR¹², SR¹², halogen, COR¹³, CO₂R¹³, CONR¹³R¹⁴, SO₂NR¹³R¹⁴, SOR¹³, SO₂R¹³, CN and NO₂, wherein the aryl, cycloalkyl, heteroaryl, and heterocycle groups may each independently be substituted by up to three groups selected from NR¹⁰R¹¹, OR¹², SR¹², , halogen, COR¹³, CO₂R¹³, CONR¹³R¹⁴, SO₂NR¹³R¹⁴, SOR¹³, SO₂R¹³, CN and NO₂,

aryl,

aryl substituted by up to three groups selected from lower alkyl, $\text{NR}^{10}\text{R}^{11}$, OR^{12} , SR^{12} , , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 ,

heteroaryl,

heteroaryl substituted by up to three groups selected from lower alkyl, $\text{NR}^{10}\text{R}^{11}$, , OR^{12} , SR^{12} , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 ,

heterocycle,

heterocycle substituted by up to three groups selected from lower alkyl, $\text{NR}^{10}\text{R}^{11}$, OR^{12} , SR^{12} , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 ,

C_{3-10} cycloalkyl,

C_{3-10} cycloalkyl substituted by up to three groups selected from lower alkyl $\text{NR}^{10}\text{R}^{11}$, OR^{12} , SR^{12} , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 ,

C_{2-10} alkenyl,

C_{2-10} alkenyl substituted by up to three groups selected from $\text{NR}^{10}\text{R}^{11}$, OR^{12} , SR^{12} , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 , and

C_{2-10} alkynyl, substituted by up to three groups selected from $\text{NR}^{10}\text{R}^{11}$, OR^{12} , SR^{12} , halogen, COR^{13} , CO_2R^{13} , $\text{CONR}^{13}\text{R}^{14}$, $\text{SO}_2\text{NR}^{13}\text{R}^{14}$, SOR^{13} , SO_2R^{13} , CN and NO_2 ;

R^2 , R^3 and R^4 are independently selected from the group consisting of

H,

halogen,

COR^{13} ,

CO_2R^{13} ,

$\text{CONR}^{13}\text{R}^{14}$,

$\text{SO}_2\text{NR}^{13}\text{R}^{14}$,

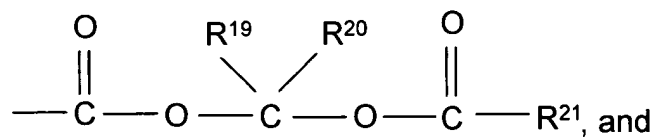
SOR^{13} ,
 SO_2R^{13} ,
 CN , and
 NO_2 ;

R^5 , R^6 , R^7 and R^8 are independently selected from the group

H ,
lower alkyl,
lower alkyl substituted by hydroxy or alkoxy,
 $\text{NR}^{15}\text{R}^{16}$,
 OH ,
 OR^{17} ,
 SR^{17} ,
halogen,
 COR^{17} ,
 CO_2R^{17} ,
 $\text{CONR}^{17}\text{R}^{18}$,
 $\text{SO}_2\text{NR}^{17}\text{R}^{18}$,
 SOR^{17} ,
 SO_2R^{17} , and
 CN ;

R^9 is selected from the group

H ,



COR^{17} ;

R^{10} and R^{11} are independently selected from the group

H,
 COR^{13} ,
 CO_2R^{13} ,
 $CONR^{13}R^{14}$,
 SO_2R^{13} ,
 $SO_2NR^{13}R^{14}$,
lower alkyl,
lower alkyl substituted by hydroxy, alkoxy or $NR^{15}R^{16}$,
cycloalkyl,
cycloalkyl substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$,
heterocycle, and
heterocycle substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$,

or, alternatively, $NR^{10}R^{11}$ can form a ring having 3 to 7 atoms, said ring optionally including one or more additional hetero atoms and being optionally substituted by the group consisting of one or more lower alkyl, OR^{12} , COR^{13} , CO_2R^{13} , $CONR^{13}R^{14}$, SOR^{13} , SO_2R^{13} , and $SO_2NR^{13}R^{14}$;

R^{12} is selected from the group

H,
lower alkyl,
 COR^{13} ,
 $CONR^{13}R^{14}$,
 C_{2-6} alkyl substituted by hydroxy, alkoxy, or $NR^{15}R^{16}$, cycloalkyl,
cycloalkyl substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$,
heterocycle, and
heterocycle substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$;

R^{13} and R^{14} are independently selected from the group

H,
lower alkyl,
 C_{2-6} alkyl substituted by hydroxy, alkoxy, or $NR^{15}R^{16}$,
cycloalkyl,
cycloalkyl substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$,
heterocycle, and
heterocycle substituted by hydroxy, alkoxy, lower alkyl, or $NR^{15}R^{16}$,

or, alternatively, $NR^{13}R^{14}$ can form a ring having 3 to 7 atoms, said ring optionally including one or more additional hetero atoms and being optionally substituted by the group consisting of one or more lower alkyl, OR^{17} , COR^{17} , CO_2R^{17} , $CONR^{17}R^{18}$, SO_2R^{17} , and $SO_2NR^{17}R^{18}$;

R^{15} is selected from the group

H,
lower alkyl,
 COR^{17} , and
 CO_2R^{17} ; and

R^{16} , R^{17} and R^{18} are independently selected from the group

H, and
lower alkyl,

or, alternatively, $NR^{15}R^{16}$ and $NR^{17}R^{18}$ can each independently form a ring having 3 to 7 atoms, said ring optionally including one or more additional hetero atoms;

R^{19} and R^{20} are independently selected from the group

H, and
lower alkyl; and

R^{21} is selected from
lower alkyl, and
 C_{2-6} alkyl substituted by hydroxy, alkoxy or $NR^{15}R^{16}$,

or a pharmaceutically acceptable salt thereof.

2. The compound of claim 1 wherein R^1 is selected from aryl and aryl substituted by OR^{12} or $CONR^{13}R^{14}$.

3. The compound of claim 1 wherein R^1 is selected from lower alkyl and C_{2-6} alkyl substituted by OR^{12} or $CONR^{13}R^{14}$.

4. The compound of claim 2 wherein R^2 is H.

5. The compound of claim 3 wherein R^2 is H.

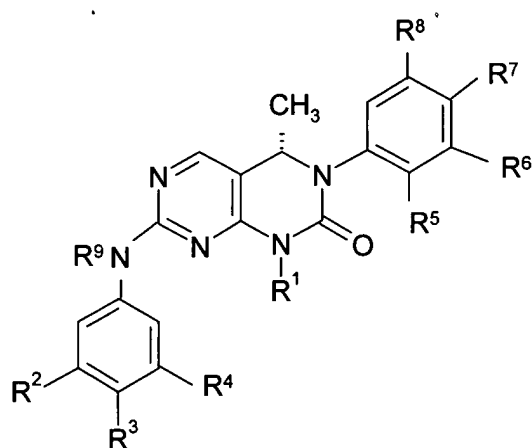
6. The compound of claim 1 wherein R^3 is H.

7. The compound of claim 1 wherein R^2 and R^3 are H.

8. The compound of claim 1 wherein R^2 , R^3 and R^4 are H.

9. The compound of claim 1 wherein R^3 is halogen.

10. The compound of claim 1 having the formula



1a.

11. A compound selected from the group:

(±)-3-(4-Methoxy-phenyl)-4-methyl-1-phenyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Methoxy-phenyl)-4-(R)-methyl-1-phenyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Methoxy-phenyl)-4-(S)-methyl-1-phenyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-1,3-Bis-(4-methoxy-phenyl)-4-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-3-[3-(4-Methoxy-phenyl)-4-methyl-2-oxo-7-phenylamino-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzonitrile; and

(±)-3-[3-(4-Methoxy-phenyl)-4-methyl-2-oxo-7-phenylamino-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzamide.

12. A compound selected from the group:

(±)-3-(2-Fluoro-4-methoxy-phenyl)-4-methyl-1-phenyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-3-[3-(2-Fluoro-4-methoxy-phenyl)-4-methyl-2-oxo-7-phenylamino-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzonitrile;

(±)-3-[3-(2-Fluoro-4-methoxy-phenyl)-4-methyl-2-oxo-7-phenylamino-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzamide;

(±)-3-(2-Chloro-5-methoxy-phenyl)-4-methyl-1-phenyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one; and

1-(2-Hydroxy-1-(S)-methyl-ethyl)-3-(4-methoxy-phenyl)-4-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one.

13. A compound selected from the group:

1-(2-Hydroxy-1-(R)-methyl-ethyl)-3-(4-methoxy-phenyl)-4-(R)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

1-(2-Hydroxy-1-(R)-methyl-ethyl)-3-(4-methoxy-phenyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Methoxy-phenyl)-4-methyl-7-phenylamino-1-[1-(S)-phenyl-ethyl]-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-N-[6-(4-Methoxy-phenyl)-5-methyl-7-oxo-8-phenyl-5,6,7,8-tetrahydro-pyrimido[4,5-d]pyrimidin-2-yl]-N-phenyl-acetamide; and

(±)-1-(trans-4-Hydroxy-cyclohexyl)-3-(4-methoxy-phenyl)-4-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one.

14. A compound selected from the group:

1-[(1R,3R)-3-Hydroxy-cyclopentyl]-3-(4-methoxy-phenyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

1-[(1S,3S)-3-Hydroxy-cyclopentyl]-3-(4-methoxy-phenyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

7-(4-Fluoro-phenylamino)-1-[(1R,3R)-3-hydroxy-cyclopentyl]-3-(4-methoxy-phenyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

7-(4-Fluoro-phenylamino)-1-[(1S,3S)-3-hydroxy-cyclopentyl]-3-(4-methoxy-phenyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

7-(4-Fluoro-phenylamino)-1-(2-hydroxy-1-(R)-methyl-ethyl)-3-(4-methoxy-phenyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Chloro-phenyl)-7-(4-fluoro-phenylamino)-1-(2-hydroxy-1-(R)-methyl-ethyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Chloro-2-fluoro-phenyl)-7-(4-fluoro-phenylamino)-1-(2-hydroxy-1-(R)-methyl-ethyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Chloro-phenyl)-1-(2-hydroxy-1-(R)-methyl-ethyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Chloro-2-fluoro-phenyl)-1-(2-hydroxy-1-(R)-methyl-ethyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-(4-Chloro-phenyl)-1-(3-hydroxy-2-(S)-methyl-propyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one; and

3-(4-Chloro-2-fluoro-phenyl)-1-(3-hydroxy-2-(S)-methyl-propyl)-4-(S)-methyl-7-phenylamino-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one.

15. A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1 and a pharmaceutically acceptable carrier or excipient.

Claims 16 - 17 (Canceled).

18. (Currently amended) ~~The A method of claim 16 wherein the cancer is~~
treating breast, lung, colon or prostate cancer comprising administering a
therapeutically effective amount of a compound of claim 1.

19. (Currently amended) ~~The A method of claim 17 wherein the cancer is~~
controlling breast or colon cancer comprising administering a therapeutically effective
amount of a compound of claim 1.

20. A compound selected from the group:

(±)-[1-(2,4-Dichloro-pyrimidin-5-yl)-ethyl]-(4-methoxy-phenyl)-amine;

(±)-7-Chloro-3-(4-methoxy-phenyl)-4-methyl-1-phenyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-{2-Chloro-5-[1-(4-methoxy-phenylamino)-ethyl]-pyrimidin-4-yl}-(4-methoxy-phenyl)-amine;

(±)-7-Chloro-1,3-bis-(4-methoxy-phenyl)-4-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-3-[7-Chloro-3-(4-methoxy-phenyl)-4-methyl-2-oxo-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzonitrile;

(±)-[1-(2,4-Dichloro-pyrimidin-5-yl)-ethyl]-(2-fluoro-4-methoxy-phenyl)-amine;

(±)-7-Chloro-3-(2-fluoro-4-methoxy-phenyl)-4-methyl-1-phenyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

(±)-3-[7-Chloro-3-(2-fluoro-4-methoxy-phenyl)-4-methyl-2-oxo-3,4-dihydro-2H-pyrimido[4,5-d]pyrimidin-1-yl]-benzonitrile; and

(±)-(2-Chloro-5-methoxy-phenyl)-[1-(2,4-dichloro-pyrimidin-5-yl)-ethyl]-amine.

21. A compound selected from the group:

(±)-7-Chloro-3-(2-chloro-5-methoxy-phenyl)-4-methyl-1-phenyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

1-[2-(tert-Butyl-diphenyl-silanyloxy)-1-(S)-methyl-ethyl]-7-chloro-3-(4-methoxy-phenyl)-4-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

3-[2-tert-Butyl-diphenyl-silanyloxy-1-(R)-methyl-ethyl]-1-(R)-[1-(2,4-dichloropyrimidin-5-yl)-ethyl]-1-(4-methoxyphenyl)-urea;

3-[2-tert-Butyl-diphenyl-silanyloxy-1-(R)-methyl-ethyl]-1-(S)-[1-(2,4-dichloropyrimidin-5-yl)-ethyl]-1-(4-methoxyphenyl)-urea;

1-[2-(tert-Butyl-diphenyl-silanyloxy)-1-(R)-methyl-ethyl]-7-chloro-3-(4-methoxy-phenyl)-(R)-4-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

1-[2-(tert-Butyl-diphenyl-silanyloxy)-1-(R)-methyl-ethyl]-7-chloro-3-(4-methoxy-phenyl)-4-(S)-methyl-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one;

1-[1-(2,4-Dichloro-pyrimidin-5-yl)-ethyl]-1-(4-methoxy-phenyl)-3-[1-(S)-phenyl-ethyl]-urea; and

7-Chloro-3-(4-methoxy-phenyl)-4-methyl-1-[1-(S)-phenyl-ethyl]-3,4-dihydro-1H-pyrimido[4,5-d]pyrimidin-2-one.